UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,143	02/27/2004	Jeffrey A. Tilton	25363A	9278

22889 7590 04/16/2010

OWENS CORNING
2790 COLUMBUS ROAD
GRANVILLE, OH 43023

EXAMINER	
PIZIALI, ANDREW T	
ART UNIT	PAPER NUMBER
1786	

NOTIFICATION DATE	DELIVERY MODE
04/16/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USIPDEPT@owenscorning.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/789,143
Filing Date: February 27, 2004
Appellant(s): TILTON ET AL.

Joan Drew
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/25/2010 appealing from the Office action mailed 4/21/2008.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application: As stated in the Notice of Non-Compliance mailed 1/5/2010 and in the PTO-90 document mailed 4/5/2010, claims 6-10, 16-20, 23 and 24 are canceled. Therefore, a correct statement of the status of the claims is as follows: This appeal involves the rejections of claims 1-5, 11-15, 21, 22 and 25-27 while claims 6-10, 16-20, 23 and 24 have been canceled.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by the Notice of Non-Compliance mailed 1/5/2010 and the PTO-90 document mailed 4/5/2010) is being maintained by the examiner except for the grounds of rejection listed under the subheading "WITHDRAWN REJECTIONS."

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner:

1) Claim 25 is no longer rejected under 35 U.S.C. 112, first paragraph.

2) Claim 25 is no longer rejected under 35 U.S.C. 112, second paragraph.

3) Claim 25 is no longer rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

5,616,408	OLESZCZUK	4-1997
5,804,512	LICKFIELD	9-1998
6,022,818	WELCHEL	2-2000
5,958,186	HOLM	9-1999
6,692,606	CEDERBLAD	2-2004
6,761,710	D'ACCHIOLI	7-2004

Definition of "wet-laid nonwoven" Complete Textile Glossary, 2001, Celanese Acetate LLC.

Definition of "air-laid nonwovens" Complete Textile Glossary, 2001, Celanese Acetate LLC.

Definition "composition" Merriam-Webster Online, http://www.merriam-webster.com/dictionary/composition.

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 11, 12, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,022,818 to Welchel.

Welchel illustrates (see Figure 1) a liner/insulator comprising a first mat layer (106, corresponding to the claimed first layer), a second mat layer (108, corresponding to the claimed second layer) directly bonded to the first mat layer, and a third mat layer (110) directly bonded to the second mat layer (see entire document including column 1, lines 11-20 and paragraph bridging columns 4 and 5). Welchel discloses that the second mat layer is a middle layer that is formed when the first mat layer and the third mat layer are hydroentangled (wet processed) with water jets (paragraph bridging columns 4 and 5). Welchel discloses that the first mat layer comprises matrix fibers and that the second mat layer comprises a different fiber formulation which is a mixture of matrix fibers and absorbent fibers (paragraph bridging columns 4 and 5). Welchel discloses that the matrix fibers may be bicomponent staple fibers that are thermally bonded (column 7, lines 21-53) and that such fibers include a thermoplastic component (column 2, lines 17 and 18).

Regarding claim 2, Welchel illustrates (Figure 2) that a fourth mat layer (114, corresponding to the claimed third layer) may be present. Welchel discloses that the fourth mat layer comprises the same material (thermoplastic bicomponent staple fibers) as the first mat layer (106) but that the fibers of the fourth mat layer may have a smaller diameter (column 5, lines 34-65). Welchel discloses that the liner/insulator (includes the fourth layer) may be wet creped (wet processed) and/or the liner-insulator (includes the fourth layer) may be subjected to dyes (wet processed) (column 8, line 65 through column 9, line 30).

Regarding claim 3, Welchel discloses that the fibers may consist of polyester and polyethylene (Examples).

Regarding claims 4 and 5, Welchel discloses that the layers may be thermally bonded by heat and pressure (column 7, lines 22-53).

Regarding claim 11, Welchel discloses that the fibers may comprise polyethylene (Examples), which is inherently hydrophobic.

Regarding claim 12, Welchel discloses that the third layer may include pulp or cotton fibers (column 4, lines 30-43), which are inherently sound absorbent.

Regarding claim 25, layer 114 corresponds to the claimed first layer, layer 106 corresponds to the claimed second layer, and layer 108 corresponds to the claimed third layer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5, 11-15, 21, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield, in view of USPN 6,022,818 to Welchel.

Oleszczuk and Lickfield each disclose an article comprising a first supporting layer of wet processed mat (14), a meltblown thermoplastic fiber layer (12), and a second supporting layer of wet processed mat (16), wherein said first and/or second layer comprises thermoplastic polymer staple fibers and thermoplastic bicomponent fibers (see entire documents including the paragraph bridging columns 11 and 12 of Oleszczuk and column 9, lines 12-20 of Lickfield). Oleszczuk and Lickfield each disclose that the layers of the article may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield).

Oleszczuk and Lickfield each disclose that additional "supporting" (wet processed bicomponent staple fiber mat) layers may be added to the article (see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield), but the references do not appear to specifically mention at least one adjacent additional layer of different fiber formulation. Welchel discloses that it is known in the nonwoven laminate fabric art (column 1, lines 11-20) to directly bond an additional thermoplastic bicomponent staple nonwoven layer (105) with a different fiber formulation (smaller denier) to an adjacent thermoplastic bicomponent staple nonwoven layer (102), so that the surface is more aesthetically pleasing to the touch and more comfortable to the user (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to directly bond an additional wet processed bicomponent staple fiber mat supporting layer, with a different fiber formulation (smaller denier), to the first or second layer of wet processed mat (14 or 16), because the additional wet processed bicomponent staple fiber mat supporting layer would allow the surface be more aesthetically pleasing to the touch and more comfortable to the user.

Regarding claims 3 and 15, Oleszczuk and Lickfield each disclose that the fibers may be polyester, polyethylene, and/or PET (see column 8, lines 22-54 and column 12, lines 43-56 of Oleszczuk and column 3, lines 55-67 and column 10, lines 1-9 of Lickfield).

Regarding claims 4, 5, 13 and 27, Oleszczuk and Lickfield each disclose that the layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield). It is noted that Welchel also discloses that the thermoplastic bicomponent staple fiber nonwoven layers (105 and 102) are to be directly bonded (45-48).

Regarding claims 11 and 21, Oleszczuk and Lickfield each disclose that the fibers may comprise polyethylene(column 8, lines 22-54 of Oleszczuk and column 3, line 55 through column 4, line 17 of Lickfield), which is inherently hydrophobic.

Regarding claims 12 and 22, Oleszczuk and Lickfield each disclose that the fibers may include natural fibers such as cotton or wool (see column 8, lines 37-54 of Oleszczuk and column 4, lines 1-17 of Lickfield), which are inherently sound absorbent.

Regarding claim 25, it is the examiner's position that the first or second layer of wet processed mat taught by the applied prior art is identical to the claimed liner/insulator. Although the current claims refer to directly bonding a first, second, and third layer of wet processed mat to form the claimed liner/insulator, the claims do not distinguish between the first, second, and third layers. Therefore, a single mass of wet processed bonded fibrous mat comprising thermoplastic polymer staple fibers and thermoplastic bicomponent fibers can be considered a multi-layer article comprising multiple layers of identical fibers.

5. Claims 1-5, 11-15, 21, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel in view of anyone of USPN 5,958,186 to Holm, USPN 6,692,606 to Cederblad, or USPN 6,761,710 to D'Acchioli.

Welchel illustrates (see Figure 1) a liner/insulator comprising a first mat layer (106, corresponding to the claimed first layer), a second mat layer (108, corresponding to the claimed second layer) directly bonded to the first mat layer, and a third mat layer (110) directly bonded to the second mat layer (see entire document including column 1, lines 11-20 and paragraph bridging columns 4 and 5). Welchel discloses that the second mat layer is a middle layer that is formed when the first mat layer and the third mat layer are hydroentangled (wet processed) with water jets (paragraph bridging columns 4 and 5). Welchel discloses that the first mat layer comprises matrix fibers and that the second mat layer comprises a different fiber formulation which is a mixture of matrix fibers and absorbent fibers (paragraph bridging columns 4 and 5). Welchel discloses that the matrix fibers may be bicomponent staple fibers that are thermally bonded (column 7, lines 21-53) and that such fibers include a thermoplastic component (column 2, lines 17 and 18).

Welchel discloses that the layers may be formed by air-laying (column 7, lines 54-62), but Welchel does not appear to specifically mention a wet-laid process. Holm, Cederblad, and D'Acchioli each disclose that it is known in the art to form mats by a wet-laid or dry-laid process (see entire documents including column 1, lines 10-29 of Holm, column 4, lines 37-50 of Cederblad, and column 3, lines 14-40 of D'Acchioli). It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute each dry-laid mat (114, 106, and 108) with a wet-laid mat, because it has been held to be within the general skill of a

worker in the art to select a known material on the basis of its suitability and desired characteristics.

The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *KSR v. Teleflex*.

Regarding claims 3 and 15, Welchel discloses that the fibers may consist of polyester and polyethylene (Examples).

Regarding claims 4, 5, 13-15, 21, 22 and 27, Welchel discloses that the layers may be thermally bonded by heat and pressure (column 7, lines 22-53).

Regarding claims 11 and 21, Welchel discloses that the fibers may comprise polyethylene (Examples), which is inherently hydrophobic.

Regarding claims 12 and 22, Welchel discloses that the third layer may include pulp or cotton fibers (column 4, lines 30-43), which are inherently sound absorbent.

Regarding claim 25, Welchel illustrates (Figure 2) that a fourth dry-laid mat layer (114, corresponding to the claimed third layer) may be present. Welchel discloses that the fourth mat layer comprises the same material (thermoplastic bicomponent staple fibers) as the first mat layer (106) but that the fibers of the fourth mat layer may have a smaller diameter (column 5, lines 34-65).

(10) Response to Argument

Claims 1-5, 11, 12, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,022,818 to Welchel.

The appellant asserts that Welchel fails to teach or suggest a liner/insulator comprising: a) a first layer of wet processed mat; b) a second layer of wet processed mat directly bonded to said first layer; wherein said first and second layers comprise thermoplastic polymer staple fibers and thermoplastic bicomponent fibers of different fiber formulations. The examiner respectfully disagrees.

Welchel illustrates (see Figure 1) a liner/insulator comprising a first mat layer (106, corresponding to the claimed first layer), a second mat layer (108, corresponding to the claimed second layer) directly bonded to the first mat layer, and a third mat layer (110) directly bonded to the second mat layer (see entire document including column 1, lines 11-20 and paragraph bridging columns 4 and 5). Welchel discloses that the second mat layer is a middle layer that is formed when the first mat layer and the third mat layer are hydroentangled (wet processed) with water jets (paragraph bridging columns 4 and 5). Welchel discloses that the first mat layer comprises matrix fibers and that the second mat layer comprises a different fiber formulation which is a mixture of matrix fibers and absorbent fibers (paragraph bridging columns 4 and 5). Welchel discloses that the matrix fibers may be bicomponent staple fibers that are thermally bonded (column 7, lines 21-53) and that such fibers include a thermoplastic component (column 2, lines 17 and 18).

Although Welchel discloses a wet process (entanglement via water jets) that is different than the wet process (wet-laying) disclosed on page 5 of the current specification, claims are interpreted in light of the specification but limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 26

The appellant asserts that Welchel fails to teach or suggest that the first mat layer (106) and second mat layer (108) are individual layers. The examiner respectfully disagrees. Welchel discloses that the first mat layer comprises matrix fibers and that the second mat layer comprises a different fiber formulation which is a mixture of matrix fibers and absorbent fibers (paragraph bridging columns 4 and 5). Therefore, each layer relates to a different fiber formulation (individual layers).

Claims 1-5, 11-15, 21, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield, in view of USPN 6,022,818 to Welchel.

The appellant asserts that Oleszczuk and Lickfield each fail to teach or suggest an additional layer of wet processed mat. The examiner respectfully disagrees. The wet processed bicomponent staple fiber mat layers (14 and 16) support the middle layer (12) and Oleszczuk and Lickfield each specifically discloses that additional "supporting" layers may be included in the liner/insulator (see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield).

Claim 13

The appellant asserts that the applied prior art fails to teach or suggest applying sufficient heat and pressure to bond the layers together. The examiner respectfully disagrees. Oleszczuk and Lickfield each disclose that the layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield). Therefore, "sufficient" heat and pressure is necessarily applied.

The appellant also asserts that there is no teaching or suggestion to provide directly bonded layers of wet processed mat with different fiber formulations. The examiner respectfully disagrees. Oleszczuk and Lickfield each disclose that additional "supporting" (wet processed bicomponent staple fiber mat) layers may be added to the composite article (see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield), but the references do not appear to specifically mention at least one adjacent additional layer of different fiber formulation.

Welchel discloses that it is known in the nonwoven laminate fabric art (column 1, lines 11-20) to directly bond an additional thermoplastic bicomponent staple nonwoven layer (105) with a different fiber formulation (smaller denier) to an adjacent thermoplastic bicomponent staple nonwoven layer (102), so that the surface is more aesthetically pleasing to the touch and/or more comfortable to the user (Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to directly bond an additional wet processed bicomponent staple fiber mat supporting layer, with a different fiber formulation (smaller denier), to the first or second layer of wet processed mat (14 or 16), because the additional wet processed bicomponent

staple fiber mat supporting layer would allow the surface be more aesthetically pleasing to the touch and more comfortable to the user.

Claim 26

The appellant asserts that the applied prior art fails to teach or suggest contacting faces. The examiner respectfully disagrees. Oleszczuk and Lickfield each disclose that additional "supporting" (wet processed bicomponent staple fiber mat) layers may be added to the article (see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield), but the references do not appear to specifically mention at least one adjacent additional layer of different fiber formulation. Welchel discloses that it is known in the nonwoven laminate fabric art (column 1, lines 11-20) to directly bond an additional thermoplastic bicomponent staple nonwoven layer (105) with a different fiber formulation (smaller denier) to an adjacent thermoplastic bicomponent staple nonwoven layer (102), so that the surface is more aesthetically pleasing to the touch and more comfortable to the user (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to directly bond (contacting faces) an additional wet processed bicomponent staple fiber mat supporting layer, with a different fiber formulation (smaller denier), to the first or second layer of wet processed mat (14 or 16), because the additional wet processed bicomponent staple fiber mat supporting layer would allow the surface be more aesthetically pleasing to the touch and more comfortable to the user.

Claim 27

The appellant asserts that the applied prior art fails to teach or suggest applying sufficient heat and pressure to bond the layers together. The examiner respectfully disagrees. Oleszczuk and Lickfield each disclose that the layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield). Therefore, "sufficient" heat and pressure is necessarily applied.

Claims 1-5, 11-15, 21, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel in view of anyone of USPN 5,958,186 to Holm, USPN 6,692,606 to Cederblad, or USPN 6,761,710 to D'Acchioli.

The appellant asserts that there is no evidence to support substitution of the air-laid mats with wet-laid mats. The examiner respectfully disagrees. It is noted that the appellant fails to teach or suggest unexpected results. The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *KSR v. Teleflex*.

The appellant asserts that Holm teaches away from the combination because the alleged goal of Holm is to produce an article of natural fibers. The examiner respectfully disagrees. The rejection does not suggest using the fiber material disclosed by Holm. Therefore, the argument is without merit.

Claim 25

The appellant asserts that Welchel does not teach or suggest a third layer of bicomponent fibers. The examiner respectfully disagrees. Welchel illustrates (Figure 2) that a fourth dry-laid mat layer (114, corresponding to the claimed third layer) may be present. Welchel discloses that the fourth mat layer comprises the same material (thermoplastic bicomponent staple fibers) as the first mat layer (106) but that the fibers of the fourth mat layer may have a smaller diameter (column 5, lines 34-65).

Welchel discloses that the layers may be formed by air-laying (column 7, lines 54-62), but Welchel does not appear to specifically mention a wet-laid process. Holm, Cederblad, and D'Acchioli each disclose that it is known in the art to form mats by a wet-laid or dry-laid process (see entire documents including column 1, lines 10-29 of Holm, column 4, lines 37-50 of Cederblad, and column 3, lines 14-40 of D'Acchioli). It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute each dry-laid mat (114, 106, and 108) with a wet-laid mat, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *KSR v. Teleflex*.

Claim 26

The appellant asserts that Welchel fails to teach or suggest that the first mat layer (106) and second mat layer (108) are individual layers. The examiner respectfully disagrees. Welchel discloses that the first mat layer comprises matrix fibers and that the second mat layer comprises a different fiber formulation which is a mixture of matrix fibers and absorbent fibers (paragraph bridging columns 4 and 5). Therefore, each layer relates to a different fiber formulation (individual layers).

Claim 27

The appellant asserts that the applied prior art fails to teach or suggest applying sufficient heat and pressure to bond the layers together. The examiner respectfully disagrees. Welchel discloses that the layers may be thermally bonded by heat and pressure (column 7, lines 22-53). In addition, Oleszczuk and Lickfield each disclose that the layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield). Therefore, "sufficient" heat and pressure is necessarily applied.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Andrew T Piziali/
Primary Examiner, Art Unit 1786

Conferees:

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1782

/D. Lawrence Tarazano/
Supervisory Patent Examiner, Art Unit 1794